



VOSH PROGRAM DIRECTIVE: 14-430A

ISSUED: April 1, 2003

SUBJECT: Public Sector Local Emphasis Program; Waste Water and Water Treatment (WWWT) Facilities

A. Purpose.

This revision updates old references and rennumbers this LEP to conform to the new VOSH program directives' classification and numbering system (See VOSH Directive 01-001A).

This directive continues the local emphasis program (LEP) which was established by VOSH in 1996 to monitor existing workplace health and safety efforts in Waste Water and Water Treatment (WWWT) facilities in the public sector.

This Program Directive is an internal guideline, not a statutory or regulatory rule, and is intended to provide instructions to VOSH personnel regarding internal operation of the Virginia Occupational Safety and Health Program and is solely for the benefit of the program. This document is not subject to the Virginia Register Act or the Administrative Process Act; it does not have general application and is not being enforced as having the force of law.

B. Scope.

This Directive applies to all VOSH personnel, and specifically to Occupational Health Compliance personnel.

C. Action.

Directors and Managers shall assure that procedures established by this Directive are adhered to in scheduling public sector WWWT facility inspections.

D. Effective Date.

April 1, 2003

E. Expiration Date.

Not Applicable.

F. Summary and Background.

Based on recognized industry hazards and in an effort to promote and monitor the provision of workplace health and safety in public sector employment, the VOSH Occupational Health Compliance Division has established this Directive specific to waste water and water treatment operations. Wastewater and water treatment facilities are workplaces which offer the potential for a variety of

serious hazards. Commonly recognized industry hazards such as, exposure to toxics, confined space entry and rescue, improper selection of respiratory protection, as well as falls which can exist in these workplaces.

Waste treatment facilities under the purview of this LEP are defined as “treatment works”, i.e., having work operations which involve the collection, storage, treatment, or disposal or reclamation of sewage or combinations of sewage and industrial wastes. Sewage is legally defined as water-carried and non-water-carried human excrement together with such kitchen, laundry, shower, bath, lavatory, underground, surface, storm and other water and liquid industrial wastes as may be present.

Water treatment facilities under the purview of this LEP are defined as establishments responsible for “waterworks” operations. Those operations include water storage, collection, purification, treatment and distribution of potable water.

G. Procedures.

Listings of water treatment and waste water treatment facilities will be combined and then randomized by computer by Agency management information systems.

(1) Sources.

Lists of wastewater and water treatment facilities shall be obtained through the Virginia Department of Health, Divisions of Wastewater Engineering and Water Programs. Inspection lists provided to the regions are developed from two (2) separate lists obtained through the Health Department. The two lists are different in format with one being developed by Planning Districts and the other being a total list of waterworks facilities only. As such, Regional Directors and Compliance Managers may find facilities listed which belong to another region. The lists may contain a small fragment of private sector facilities which would not be inspected under this local emphasis program.

(2) Adjustments and Deletions

Prior to using a regional list, Regional Directors and/or Compliance Managers shall make appropriate or necessary deletions in accordance with the VOSH FOM - Chapter 1 concerning inspection scheduling.

When it becomes evident that a facility is not conducting waste or water treatment operations, the facility shall be deleted from the list.

Any inspection sites which are found to be outside of the assigned region shall be transferred by memorandum to the appropriate region. Upon notification, the Regional Director and/or Compliance Manager shall ensure that any additional inspection sites are added by date order of receipt and are placed at the end of the list.

H. Inspection Scheduling.

Regional Directors and Compliance Managers shall use the following guidelines in scheduling inspections:

(1) Each region shall receive two lists, as follows:

1. WWT Plants - To Be Inspected
2. Waste Water treatment Plants - Information Only

Inspections shall be scheduled from the “WWT Plants - To Be Inspected” list. The secondary list is provided as additional information only to assist the regions with identification of operations at the site. Regional Directors and Compliance Managers will use the random lists and schedule inspections in the sequence provided.

- (2) The total number of inspections to be conducted under this LEP will be guided by the established Health Compliance program Goals and Objectives as they relate to the respective regions. Regional Directors or Compliance Managers may schedule more inspections than set by a goal especially if this LEP is shown to address the need of the region.
- (3) Unless otherwise instructed by the Regional Director and/or Compliance Manager, these LEP inspections shall be comprehensive.
- (4) Denial of entry or refusal to permit inspections shall be handled in accordance with the VOSH FOM, and in coordination with the Office of Legal Support.

I. IMIS/Recordkeeping.

In order to monitor the program, complete the VAOSH-1 and include the following information:

(1) Inspection Type:

Block 17) (Mark either)

b. ____ Local Government

or

c. ____ State Government

Block 24) Programmed

h. X Planned

(2) **Optional Information.**

<u>Type</u>	<u>ID</u>	<u>Value</u>
S	05	WasteH ₂ O

(3) **If No Inspection.**

If an inspection was attempted or begun but later deleted in accordance with I.2., complete the VAOSH-1 as follows:

Block 45 - X Other

J. Follow-Up/Questions.

Programmatic difficulties and problems experienced with the implementation of this LEP shall be forwarded to the Occupational Health Compliance Program Director. Based on input by the regions as well as the overall evaluation by the Director, amendments to this LEP shall be made as necessary in order to continue promoting workplace health and safety in the public sector.

C. Ray Davenport
Commissioner

E-Attachments: Appendix A - Specific summary reports of workplace hazards associated with waste and water treatment operations. Occupational Health Compliance personnel should review Appendix A prior to conducting inspections in order to focus on serious hazards specific to such workplaces.

Appendix B - Code of Virginia, Health Laws, §32.1 - Related Definitions.

Appendix C - Interpretations Related to Bloodborne Viruses and Wastewater Industry.

Distribution: Commissioner of Labor and Industry
Directors and Managers
VOSH Compliance Staff
Cooperative Programs Staff
Legal Support Staff
OSHA Regional Administrator, Region III
OSHA Area Office, Norfolk

When the guidelines, as set forth in this Program Directive, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following federal terms if, and where they are used, shall be considered to read as below:

Federal Terms

VOSH Equivalent

29 CFR

VOSH Standard

Regional Administrator

Commissioner of Labor and Industry

Area Director

VOSH Director

Regional Solicitor

Attorney General or
VOSH Office of Legal Support (OLS)

Agency

Department

Office of Statistics

VOSH Research and Analysis

Compliance Safety and Health Officer (CSHO)
and/or Industrial Hygienist

CSHO

Field Inspection Reference Manual (FIRM)

VOSH Field Operations Manual (FOM)

APPENDIX A

For summary reports of workplace hazards associated with waste and water treatment operations, click on the following:

E-Attachments:

<http://www.cdc.gov/niosh/face/In-house/full8733.html>

<http://www.cdc.gov/niosh/face/In-house/full8540.html>

<http://www.cdc.gov/niosh/face/In-house/full8637.html>

<http://www.cdc.gov/niosh/face/In-house/full8648.html>

<http://www.cdc.gov/niosh/face/In-house/full8654.html>

<http://www.cdc.gov/niosh/face/In-house/full8706.html>

<http://www.cdc.gov/niosh/face/In-house/full8723.html>

<http://www.cdc.gov/niosh/face/In-house/full8757.html>

<http://www.cdc.gov/niosh/face/In-house/full8759.html>

<http://www.cdc.gov/niosh/face/In-house/full8801.html>

<http://www.cdc.gov/niosh/face/In-house/full8844.html>

<http://www.cdc.gov/niosh/face/In-house/full9117.html>

<http://www.cdc.gov/niosh/face/In-house/full8905.html>

<http://www.cdc.gov/niosh/face/In-house/full9308.html>

<http://www.cdc.gov/niosh/face/In-house/full8411.html>

<http://www.cdc.gov/niosh/face/In-house/full8413.html>

<http://www.cdc.gov/niosh/face/In-house/full8523.html>

<http://www.cdc.gov/niosh/face/In-house/full8531.html>

<http://www.cdc.gov/niosh/face/In-house/full8544.html>

<http://www.cdc.gov/niosh/face/In-house/full8638.html>

<http://www.cdc.gov/niosh/face/In-house/full8720.html>

<http://www.cdc.gov/niosh/face/In-house/full8745.html>

<http://www.cdc.gov/niosh/face/In-house/full8767.html>

<http://www.cdc.gov/niosh/face/In-house/full8928.html>

<http://www.cdc.gov/niosh/face/In-house/full9030.html>

<http://www.cdc.gov/niosh/face/In-house/full8746.html>

<http://www.cdc.gov/niosh/face/In-house/full8747.html>

<http://www.cdc.gov/niosh/face/In-house/full8814.html>

<http://www.cdc.gov/niosh/face/In-house/full9012.html>

<http://www.cdc.gov/niosh/face/In-house/full9014.html>

<http://www.cdc.gov/niosh/face/In-house/full9017.html>

<http://www.cdc.gov/niosh/face/In-house/full9123.html>

APPENDIX B

For Code of Virginia, Health Laws, §32.1 - Related Definitions, click on the following:

E-Attachments:

<http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+32.1-163>

<http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+32.1-167>

APPENDIX C

Ms. Wanda Bowman
Manager, Industrial Pretreatment
Fulton County Department of Public Works
Industrial Monitoring Unit
3201 Atlanta Industrial Parkway
Suite 211
Atlanta, GA 30331

27 July 1993

Dear Ms. Bowman:

Your June 28 letter to Dr. Vernon Houk requesting information on the risk of hepatitis B infection from exposure to wastewater was forwarded to me for reply.

Certainly, the concerns of the Regional Pretreatment Task Force about strategies for infectious disease safety among wastewater workers are valid ones. Wastewater, by definition and use, may contain a wide variety and number of pathogenic or potentially pathogenic microorganisms, and also may be responsible for transmission of a number of diseases if certain precautions are not taken. Accordingly, an assessment of disease transmission risk must be made before effective prevention strategies can be formulated.

Bloodborne viruses as a group (including hepatitis B virus [HBV]) are rather fragile, are readily killed by a wide variety of physical or chemical agents, and are not considered as being transmitted by water (including wastewater) or via the airborne route. Direct contact of an infected person's blood with a susceptible person's bloodstream is necessary for a bloodborne virus "exposure" to occur. Persons at increased risk of percutaneous (through the skin via needlestick, cut, or previously broken skin) or mucous membrane contact with blood (in this sense, blood directly from an infected person's body) are also considered at increased risk of hepatitis B infection and would clearly benefit from receiving hepatitis B vaccine. Some members of our police forces, as you mentioned, frequently fit into this category as a result of direct, sometimes uncontrolled "bloody" situations which may also include the presence of blood-contaminated sharp objects. Emergency medical personnel and a variety of other healthcare workers are likewise at risk of direct and sometimes intense contact with raw blood. For your reference, safety guidelines for these groups are enclosed.

Blood may enter the wastewater system from a variety of sources, some of which may be contaminated with bloodborne viruses, including HBV. However, massive dilution will occur in the system along with the presence of physical and chemical agents not conducive to survival of these delicate pathogens. The relatively fragile nature of HBV is known from a limited series of very tedious and expensive laboratory experiments conducted over the past decade. An environmental study of HBV in a wastewater system would not be possible, since the viability of HBV cannot be determined by laboratory culture methods commonly used for other viruses. Chimpanzee inoculation and observation of the animal for up to one year is the only method to determine whether HBV is alive in a single sample. For obvious reasons, this type of experimentation is not feasible. However, we do know from the existing laboratory tests with chimpanzees that a variety of chemicals, even those in the category of detergents and soaps, are readily capable of killing high numbers of HBV. Just due to the chemical content, we could expect the potential for downstream survival of HBV in a wastewater system to be very low or virtually nil. This, coupled with the massive dilution factor in wastewater systems and the unlikelihood that workers would sustain exposures in the order of an injection, suggests that wastewater in the general sense is not a vehicle for bloodborne virus transmission.

As mentioned previously, wastewater is known to contain a variety of other viruses as well as bacterial and parasitic agents, all of which can be pathogenic and are spread by the fecal-oral route. Examples include hepatitis A virus, rotavirus, Salmonella spp., Shigella, spp., Cryptosporidium, spp., and certain strains of enteropathogenic Escherichia coli. These and other related enteric microorganisms are not as fragile as bloodborne viruses and may pose significant threats to the health of wastewater workers in the absence of the proper use of protective clothing and consistent personal hygiene. Other than the routine childhood and adult vaccinations, use of other available vaccines in this setting are not presently indicated. Professional organizations such as the Water Pollution Control Federation have stressed the importance of engineering controls, protective clothing, consistent personal hygiene. Other than the routine childhood and adult vaccinations, use of other available vaccines in this setting are not presently indicated. Professional organizations such as the Water Pollution Control federation have stressed the importance of engineering controls, protective clothing, consistent personal hygiene, and continuing education programs to ensure the maintenance of health and general safety for wastewater workers. Also, I am aware that the Environmental Protection Agency-funded National Small Flows Clearinghouse at West Virginia University in Morgantown has available the "Operator Occupational Health Hazards Information Package" (1-800-624-8301) which should add to these perspectives and implementations.

I hope this information will help the Task Force in its deliberations. If you have comments or other questions, please feel free to contact me at any time (404-639-3821).

Sincerely yours,

Walter W. Bond, M.S.
Supervisory Research Microbiologist
Hospital Environment Laboratory Branch
Hospital Infections Program
National Center for Infectious Diseases

For a response to an inquiry concerning the applicability of §1910.1030, Occupational Exposure to Bloodborne Pathogens, to designated first aiders and to employees exposed to raw sewage, please go to:

E-Attachment:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=INTERPRETATIONS&p_id=20768&p_text_version=FALSE